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REMARKS
ON
THE SCURVY
AS IT APPEARED AMONG
The English Prisoners in France,
IN THE YEAR 1795;
WITH
AN ACCOUNT
OF THE
EFFECTS OF OPIUM
IN
THAT DISEASE,
AND OF
THE METHODS PROPER TO RENDER ITS USE
MORE EXTENSIVE AND EASY;
(WRITTEN DURING HIS CONFINEMENT IN THE TOWER)

BY
R. T. CROSFIELD, M.D.

Quis talia fando temperet a lachrymis:
Who can refrain from tears at such a tale.
Delirant reges plectuntur Achivi:
..... The Greeks
Are punished for the faults of CRAZY Kings.

London:
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1797.

REMARKS

THE SCURVY

THE ENGLISH FLEET IN FRANCE

IN THE YEAR 1759

AN ACCOUNT

EFFECTS OF OPIMUM

IN THE

THE METHOD PROPOSED FOR ITS USE
IN THE TREATMENT OF THE
DISEASES OF THE TOWERS

R. T. CROSSLAND, M.D.

LONDON: Printed by J. B. B. B. B.

1760

PRINTED FOR THE AUTHOR

AT THE SIGN OF THE

IN THE

1760

DEDICATION.

TO THOSE

WORTHY CITIZENS OF LONDON,

John Greenside,

Francis Barstow Nixon,

William Walker,

Alexander Black,

William Shone,

Arthur Windus,

William Norris,

William Gosling,

Daniel Pinder,

Benjamin White,

John Reid, and

John Coe.

GENTLEMEN,

BY inscribing the following trifle to you, I enjoy the highest of gratifications, as it furnishes me with an opportunity of publicly thanking you, for that noble exertion of justice and independence, which, at the same time that it defeated political imposture, recorded your names in letters of adamant among the glorious assertors of your country's rights.

To you, indeed, the following pages almost exclusively belong: they were written during my dreary confinement in the Tower; they were seized with my other papers, after a bill of indictment was found against me; and it is to your courage, justice,

and discernment, that I now live to lay them before the world, after having been detained from me till the 20th of February last.

In pronouncing my acquittal, you did not violate your own feelings. It would, indeed, be an affront to your understandings, enlightened as they were by the manly eloquence of an Adam and a Gurney, to suppose that you would give the least credit to *four mere hearsay* witnesses, inconsistent with each other and with themselves; more especially when one was proved a notorious liar and insane; two others appeared to have been actuated by malice, a fourth did not know me when he saw me, and never had a moment's conversation with me in his life; nor did one of them, except the madman, pretend to any degree of intimacy with me. Whether it was probable that I should have made *him* my confidant was certainly no very intricate question. Yet these were the witnesses on whose credibility my shameless persecutors rested their case: nor can I assign any reason for the delay of my trial, except that of rendering it impossible for me to controvert their evidence. This plan (if it really was laid) had almost proved successful; for, of near seventy witnesses, whose names I had given in to my Solicitor, only two, owing to this very delay, could be procured. Had the business been brought on at an earlier period, not one of the *four hearsay* witnesses would, in all probability, have ventured into court; at least if he had, he would hardly have escaped a conviction for wilful perjury, so completely false was the whole of *this* evidence.

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The pretended death of Upton was, perhaps, the most curious piece of evidence ever produced or admitted in a court: his wife had *been told* by a waterman that he was drowned: this *hearsay* evidence was to serve as a proof of his being able to demonstrate what the other four *hearsay* witnesses pretended to have heard, and you were *supposed* to be perfectly convinced by this unsupported report, that *four* discordant stories were *all true*. Whether to admire most the excessive candour of the court, in refusing to hear evidence of Upton being then alive, or the exceeding modesty of the Attorney-general, in admitting the fact, I do not really know; but, it seems, it availed nothing to prove him to be living, unless we could prove him to have been kept away by the prosecutors; and for that we had *only Upton's own word*. In my opinion, they *might* have produced him; for it can hardly be believed, that, if they wished him to appear, they would have suffered a man to go at large, whose prevarication had formerly induced them to commit him to prison: but had the Attorney-general brought forward in evidence, as a proof of my guilt, that the Pope was seen in a gin-shop in St. Giles's, I am not sure whether I should, by the same rule have been allowed to set up an *alibi* on the part of his Holiness, *unless I could prove he was kept away by authority*.

It was stated that I run away to Bristol to secrete myself; but this flight proved only a visit to a friend who had given me an invitation, and my secreting did not, it seems, extend either to my person or my sentiments. My leaving England was not out of any fear of a prosecution, it was simply in consequence of a plan I had long before formed of visiting
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the southern hemisphere for the purpose of cultivating natural history; I had provided every thing necessary for bringing home an extensive collection, together with an astronomical, chemical, and anatomical apparatus. Having once made up my mind to go, and prepared for the voyage, I certainly should not have staid an hour in consequence of any message or summons whatever; however I received neither. I sailed in January, and about a month after it was publicly known that I was gone, out came a proclamation offering a reward of two hundred pounds for apprehending me.

During my confinement in the Tower, when I was deprived of every means of vindicating myself, no pains were spared to prejudice the public opinion against me; a practice the more base and unwarrantable, as the law of England holds it a very high offence to print or write any thing that may tend to influence a decision even in the most trifling matters. In my case it amounted to a premeditated murder; but, thanks to your honest and independent minds, this villanous attempt was frustrated!

To those, however, who are acquainted with ministerial papers and ministerial scribblers, it can be no matter of surprise that you as well as myself have been exposed to the grossest, falsest, and most scurrilous libels. In fact, as no prosecution could more completely terminate in the disgrace of the prosecutors, the virulence of their hirelings, must be expected to display itself in the most extravagant manner; and since the witnesses brought forward could not persuade you that I deserved to be hanged, the next step naturally was to endeavour to persuade the world that you did. Yet, as you well know, nothing that
could

could even be quibbled into a treasonable act appeared in evidence against me.

For my own part, I have been highly entertained by their railing: and there is even a satisfaction in reflecting, that a poor scoundrel, whom no body would believe either on his word or his oath, can procure a dinner by scribbling an innocent lie on you or me in a ministerial paper. Nay, we do not know but we may have saved some of these miserable wretches from Botany Bay, since they might, perhaps, if they had not made a little money of our names, have been driven to the desperate resource of picking a pocket.

I am in possession of most of their names and haunts (for they have not *all* fixed places of abode), and could, were I so disposed, take a severe revenge upon the greatest part of them, by publishing their addresses, leaving to such of their creditors as may despise or have forgotten the old adage "Sue a beggar," &c. the task of punishing their delinquency.

As it is, I shall honour them with no farther notice than one would bestow on a pack of snappish, hungry curs, who, in hopes of a crust from their masters, are ready to snarl at and bite any innocent passenger that is pointed out to them. I beg pardon for having wasted so much time and paper on such miscreants; but it is the first, and shall be the last time I shall bestow either a word or a thought on a nest of toothless reptiles, who may indeed hiss, but cannot bite. I am,

With the sincerest esteem and respect,

GENTLEMEN;

Your grateful countryman,

R. T. CROSFIELD.

July 2, 1797.

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ADVERTISEMENTS

THIS little production, from the nature of the situation in which it was composed, must naturally be expected to abound in imperfections; nor can it boast any merit except its containing a plain and faithful detail of facts. With a desire of benefiting mankind, as well as of solacing the tedious hours of confinement (and what can be a more solacing reflection, than that one is endeavouring to render service to one's fellow-men?) the author committed to writing what he had seen, whilst it was yet fresh in his memory. Denied the access of his friends, ignorant of the specific charge on which he was confined, and unable even to guess at the nature of the evidence to be adduced against him, (which the copy of his indictment, when delivered to him, could no way explain, as he was indicted for conspiring with three men whom he did not even know by sight) he could not but look upon himself as a devoted victim; yet, glowing with contempt for the authors of his injurious treatment, and determined that nothing should discourage him from doing what he thought his duty, he resolved to write, and leave his observations to their fate, hoping that they might perhaps incite some man enjoying greater opportunities, or greater abilities, either to confirm or confute them. Not much order or exactness can therefore be expected in such a work, for he had no books to refer to, nor has he made one alteration since his papers have been restored to him, which however might have been done earlier had he known the proper channel of application. To any gentleman whose opinions or labours may have been mistated, overlooked, or misunderstood, he hopes the natural defects of a few pages written solely from memory, will plead a sufficient excuse.

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That the scurvy should lurk under the mask of rheumatism or asthma was, indeed, nowise surprising;

surprising; but it somewhat astonished me to meet with it under the complete resemblance of pleurisy; particularly in the months of June and July. I knew too much of this insidious enemy, to suffer myself to be deceived by a full, or even pretty hard pulse; but I once had the curiosity to draw about four ounces of blood from an otherwise healthy and robust young man, to satisfy myself as to the presence of the inflammatory crust. The event, however, shewed the great propriety of abstaining from phlebotomy, even in those cases that seem most to demand it; for the blood, during its flowing, exhibited a very remarkable broken sparkling, and, as it were, sandy aspect; nor did it, on standing, separate into serum and crassamentum, as usual, but remained in a mass of various hues, and possessing but little firmness.

Though the scurvy often borrowed these forms, it most frequently assumed its ordinary symptoms:—these were stinking breath, swelled, spongy, and bloody gums, tumours, stiffness of the joints (particularly of the knees), black, brown, purple, or livid spots, some no larger than a flea-bite, others very large, resembling bruises, accompanied by great debility and dejection of spirits.

The scurvy has formerly been erroneously represented by some as a new disease,* and the almost *peculiar* progeny of cold climates, but experience has sufficiently demonstrated that it is no stranger even to the warmest. Cold, especially when joined with moisture, has, however,

* It was said to have first appeared in 1556; but Dr. Solomon de Leon, in an "Inaugural Dissertation," published at Leyden, in 1790, proves clearly that it was known to the Ancients under the name of *Stomatocace*.

such manifest influence in its production, when superadded to salt, and otherwise bad diet, that a slight sketch of the weather, and treatment we experienced in France may not be amiss.

The latter part of the year 1794, and the beginning of 1795, were perhaps as cold as any in the memory of man; nor was the cold confined to one country only; but very severely felt almost through Europe. About the middle of February the weather grew warmer (in France at least); but early in March it again became cold and rainy, nor did it remarkably change for the better until the beginning of May, when there were a few fine warm days. At this time cold, chilling, easterly winds began again to set in, accompanied for the most part by rain and remarkably damp weather. Notwithstanding the wind sometimes shifted to the opposite points still the same cold, damp, and unseasonable temperature of the air continued; nor did it become more pleasant and seasonable till towards the end of July: after that it continued mild and pleasant till we left France.

During the colds of the early part of spring, miserable indeed was the state of too many of our captive countrymen. Several, particularly soldiers belonging to the Loyal Clare regiment had neither beds nor a change of linen; the consequence of which, joined to natural indolence and habits of dirt, rendered them the first victims of disease. Nor were even some masters of merchantmen in a much better situation; for, having been captured by, or put on board those French men of war that were lost in the storms of the month of January, they were barely able to preserve their lives with the loss of every article of their wearing apparel.

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The castle of Brest being full of prisoners, many (to the amount of 1200) were forced to be put on board some old Indiamen, which lay in the harbour, and served as temporary prison ships; here they were crowded without distinction into confined and dirty apartments, and underwent unspeakable hardships.

It was my lot, on my arrival there, Feb. 23, to be put on board the Elizabeth, which though reputed the most tolerable of the whole, was horrid beyond description!

We had no place to sit down in, even to eat, but the open deck; our diet consisted of rice soup, or, more properly speaking, rice water, qualified with a little rancid, stinking oil; about six ounces of bad, coarse, salt beef; and every third day our rice was alternated with a mess of horse beans, and our beef with salt fish, or half rotten dried pilchards. We had, however, plenty of good bread, and three half pints of poor small adulterated wine, but no vegetables whatever, and the wine it seems was withheld from several of the other ships. The water allotted us was foul and putrid, though there was plenty of good water on board, nor was any allowed for the purposes of cleanliness. Such were the miseries of the day; but those of the night far exceeded them, nor were perhaps ever outdone, unless by the horrors of the black hole of Calcutta!

The place allotted for us to sleep in was a part of the ship's hold, whither we were thrust down at sun-set, and which afforded no more than four inches in breadth to six feet in length for each man. Our number was about 240; many, therefore, were obliged to sleep upon the floor, notwithstanding two, and in some parts

parts three tiers of hammocs had been hung one under the other. After having been inclosed in this den of misery for about an hour the heat grew intolerable, and the odour arising from the effluvia of our bodies horribly offensive. Those on the floor were incommoded by the saliva and urine of those above, who were often so faint with the heat and stench of those that lay below, that they could not move even for the homeliest occasions ; and, to add to these troubles, * the Irish soldiers gave themselves up to dirt and idleness in such a manner, that as it was totally impossible to crawl in or out of our dungeon without touching some of their hammocs with our backs, we were sure to find vermin upon our clothes on coming upon deck in the morning.

As the heat and stench increased, many fainted, some broke out into raving madness, uttering the most incoherent and horrid imprecations ; and we had the affliction, more than once, to see an unfortunate fellow-sufferer, on the first moment of his exposure to the cold air of the morning, drop down on the deck to rise no more.

It was in vain that the captain of the ship, a humane and good man, endeavoured to relieve our sufferings and check abuses. He gave orders that the hatches should be left open at nights, and that his surgeon should look after the sick ; but as he had little compulsive power, no sooner was he gone to bed than some one or other, in spite, as they said, to

* There were the soldiers of the Loyal Clares, who laid hold of the situations next the hatchway : the other prisoners, therefore, relinquished their claim, not caring to contend with men who each commanded and maintained a legion.

George and Pitt *, laid the hatches down ; the surgeon of the ship too was so ignorant, that after one of the sick had applied to be sent to the hospital, he confidently asserted, that nothing ailed him ; in less than an hour, however, this poor fellow contradicted his assertion by dying upon deck.

On the 2d and 3d of March, we were removed from this dismal place and put on board some English cartels that had arrived from the West India Islands with prisoners, and had been detained since the preceding summer in Landerneau road.

Here our condition was much mended ; but several met with a great mortification, for they now perceived that their trunks, &c. had been privately broke open during their abode in the dismal mansions of the Elizabeth, and many articles of value stolen out ; among the rest, I thinking, upon my arrival on board one of these cartels, to regale myself with a clean shirt, discovered on looking that it was out of my power, they having been all stolen.

Our allowance of provisions still continued the same, but those who fortunately had saved a little money, or goods that were saleable, had an opportunity of purchasing provisions of all kinds, which the French soldiers brought, partly by stealth, from Brest and Landerneau. After we had been here about a month, fresh beef was

* When we consider the very *reputable* business of the forged assig-nats, the war of La Vendee, and other similar great exploits, we cannot be surprised at the detestation in which the English are held by the French. Wars have ever been carried on with blood, rapine, and plunder, but forgery is certainly a modern improvement ; nor need we wonder that our enemies should alike detest that Government which they supposed to have planned, and that People which they knew to have put in practice such a base and cowardly species of warfare. It was however hard, that the weight of their resentment should fall on men who detested such practices as much as themselves.

served out to the prisoners; but, from what cause I know not, this allowance was soon discontinued; and, to our mortification, bread likewise became so scarce and bad, that sickness and famine seemed to unite for the destruction of those who were obliged to live upon such miserable fare.

The poor fellows, who were our guards, were, however, in the same condition, nor had either more or better provisions than the prisoners; and the paper-money was so depreciated, that a merry old Frenchman swore heartily to me that his pay would not find in him snuff; yet the laugh and the dance, and the song, continued their usual round among these inflexible republicans.

As the fresh beef could be no longer procured the commandant, Captain Forterie, used to send his boat every Saturday to Landerneau, to purchase provisions for such as could pay the market price for them; this (which the butcher's bill regularly brought with them, always made known) was eight livres ten sous a pound for mutton, and six livres ten sous for veal; but if we recollect, that from one thousand to one thousand four hundred livres were then the price of the louis d'or, or guinea, we must reduce the pound of mutton to two pence, and that of veal to one penny halfpenny.

It was on our arrival in Landerneau river that my attendance on the sick commenced; a very laborious task, and replete with incessant vexation. We had no medicines but such as had been put on board the ships before their leaving England, for the use of their respective crews. These, originally of an inferior quality, and many of them compounded without skill,
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had been much damaged by length of time; nor was there a possibility of procuring proper diet for the sick. The commandant's surgeon used, indeed, to come pretty often to send such as he thought fit to the hospitals; but these were so crowded that none could possibly be admitted except they were very ill,* and so very few returned of those that went that others were unwilling to go; not to mention that several must have perished unless assistance could be procured more speedily than their turn of admittance came on.

During the first part of the spring the diseases most common were fevers, in which there was little remarkable, except the early attack of delirium; which in some cases preceded every other symptom. The patients complained of pains in the head and back, sickness and vomiting; most commonly of diarrhœa, but sometimes obstinate costiveness, with which they had for the most part been troubled some days previous to the coming on of more urgent symptoms. The pulse was low and generally about 110, but sometimes during the first day or two very little accelerated or different from the healthy state; the tongue was usually white and foul, but sometimes very clean, and the patients generally complained of a bitter taste in the mouth, together with vertiginous affections of the head.

The plan of cure was obvious; for, after clearing the stomach by a gentle emetic, the stimulant plan, with acidulated drinks, completed the cure, without failing even in one

* How many died is impossible for me to ascertain, many remained in the hospitals after they were cured, many ran away, and several were sent to other prisons.

instance.

instance. Blisters however availed nothing in removing the delirium, which yielded only to free doses of opium.

About the middle of April the scurvy made its appearance, and soon spread to an alarming degree, without any possibility of stopping its progress. The ships were, indeed, smoaked with gunpowder and vinegar, cleanliness was endeavoured to be enforced, and vinegar was served out to such as chose to apply for it; but all in vain.

The severely cold and damp weather chilled and benumbed a number of poor wretches, half-naked and half-starved, who, to avoid its inclemency, could neither be prevailed upon to come upon deck, nor wash their apartments. Nor was this all, for the crowd and dirt caused them to be overrun with vermin, in such a manner that it was a most disagreeable business to go among them, even for the few moments necessary to render them what little assistance lay in my power.

The scurvy, in the mean time, was daily extending its ravages: scarce a day occurred but one or more were added to the number of the sick; nor did a week pass in which ten at least were not sent to the hospitals of Brest or Landerneau; insomuch, that by the middle of May, not more than one-third of the original complement remained.

It was perhaps unfortunate that most of the ships, being lately arrived from the West India Islands, had rum on board. The several captains were willing to accommodate the prisoners with this, which indeed was a great refreshment when temperately used; but some sailors, having got

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themselves

themselves intoxicated, broke open the holds of the ships and plundered every thing they chose.

This business was carried on with surprising regularity, being put in practice on board all the ships at the same hour; and, shame to tell! was encouraged by some whose situations ought to have induced them to set a far different example. This increased the sickness, and some were even said to have died under intoxication.

On the 1st of May I was removed, by the commandant's order, at the desire of the three captains below, from the ship in which I originally was, to the Humphreys, as a mark of respect, that being the pleasantest situation; and as from that time some degree of intimacy commenced between the commandant and myself, it then lay in my power to render more service than formerly; I therefore declined the offer of going upon parole, resolving to abide by my countrymen in their distresses, in preference to consulting my own ease or pleasure.

It is with infinite pleasure I write the names of Captain Anthony Collins, of the Humphreys; Captain Wm. Yellowley, of the Resolution; and Captain Rob. Alexander, of the Berwick, three men to whom the thanks of their country are justly due, for the preservation of many valuable lives. The three ships to which they belonged were moved close together in one tier, and as the greatest harmony and friendship subsisted among them, they united their endeavours to relieve the sufferings of those on board their vessels. With this view they distributed among the prisoners, at their own risque, such stores as were on board of bread, peas, oatmeal, beef, &c. in a regular manner. To the sick they gave tea,
sugar,

sugar, and other accommodations, bought at their own expence; and those masters of ships and passengers, with whom they had any acquaintance, or who seemed to possess any merit; they entertained at their own tables. These last amounted to ten in number, and we contrived to make our situation at least tolerable. The stock of medicines was now made common, and the direction of it was my province.

The work of humanity went on from this time more cheerfully: the scorbutic was sent off more frequently to the hospitals; for our three marine philanthropists were so much respected by the French, as well as the English, that whatever they requested was immediately granted.

Those that were sick of other diseases generally remained with us, except they were destitute of clothing, in which case they were recommended immediately, on the attack of any serious illness whatever, to go to the hospitals. Though the French * medical practice is certainly much inferior to the British, the advantages of proper diet, comfortable accommodations, and clean clothes (all which they had at the hospitals), perhaps more than counterbalanced that inferiority: at all events it was next to impossible to effect a cure where all these were wanting.

But though this imperfect practice promised not much to other patients, the scorbutic very constantly found relief from the diet; and those from Landerneau pretty generally returned to

* It consists chiefly in administering decoctions of simples and ptisans of different sorts. They are mighty friends to phlebotomy, blisters, and clysters; nor do they scruple to use very rough emetics. But in general their prescriptions are very inert; for instance, *R. pulv. cort. Peruv. pulv. rhabarb & pulv. sal. nit. aa. gr. x.* to be given every third hour. Nor do they scruple to wake a patient in the night to give him his dose.

us; those sent to Brest frequently were put into the castle there; but these in either hospital seldom were in any hurry to return.

About the beginning of June the fevers began to assume a different and more dangerous form. The sickness and vomiting no longer yielded to emetics; the tongue was foul, blackish, or a deep yellow; the pulse generally, as in the former fevers, only lower; but the delirium was, if possible, more early in its attack, and remarkably obstinate. On the third, fourth, or fifth day, a considerable degree of icterus came on, often followed by a diarrhœa, which removed the other symptoms. This was the mildest and most favourable form; for many times the vomiting would only stop with the eruption of sweat; profuse hæmorrhages exhausted the patient's strength, without in the least relieving any of the symptoms; the icteric symptoms came on with much pain in the region of the liver; and, the flux, by its profusion and obstinacy, threatened the worst consequences.

It was here evident that the former plan of cure must be changed, in part at least. The vomiting and sickness could only proceed from one of two causes, BILE, or that general diathesis which frequently prevails in contagious and pestilential diseases, and which only ceases with the appearance of sweat, some pustular eruption, or glandular swelling; for putrid disorders, though frequently the occasion of very troublesome symptoms in the more advanced state of those diseases, rarely, if ever, exist at their commencement.

When, therefore bile was suspected for the cause, the vitriolic acid was naturally pointed out as the obvious remedy; otherwise a combination

nation of opium and antimonials, or opium alone, was used to promote a free diaphoresis.

When the vomiting was checked, if the pulse was tolerably strong, and not much delirium present, as was usually the case when bile abounded, a gentle purgative was next administered, which frequently completed the cure without needing a repetition.

In the other cases, after sweat has been excited, the icteric symptoms coming gently on, were, for the most part, a sign that the worst was over: and if the diarrhœa came on with moderation, I usually suffered it to proceed. Many cases however occurred which required the utmost attention and exertion.

Delirium and hæmorrhage were the most troublesome symptoms I had to encounter. The cortex* peruvianus availed nothing, nor were blisters of the smallest service; but, happily, the opium answered both these ends. If liberally given it procured sleep, and removed the delirium: and in case of a sudden hæmorrhage (no unfrequent occurrence) it was my custom to give Tinct. opii gtts L. or gr. iij of the Extract, which usually stopped the bleeding in a few minutes.

Very troublesome fluxes were sometimes the consequence of the spontaneous diarrhœa, or even of a single dose of rhubarb, given during the icteric stage; but these were when necessary checked with great certainty and safety by the opiate.

By these means, aided by the generous and humane exertions of Captains Collins, Alexander and Yellowley, I was fortunate enough to lose

* This might be owing to the bad quality of that we had.

only one patient in, I may safely say, near an hundred; whereas of those that went for these complaints to the hospitals, where they were treated on a very opposite plan of cure, not one tenth returned.

I had never, during all this time, attempted even to palliate a scorbutic complaint, conscious that nothing effectual could be done without such a change of diet as was impossible for the sick to procure. But, about the middle of July, we were flattered with the hopes of a speedy exchange, and our numbers were then reduced by death and sickness (notwithstanding two drafts from the castle at Brest) to little more than three hundred. It then became impossible to resist the entreaties of a number of miserable men, all anxious to revisit their native soil. Terrified at the idea of being left behind in an hospital, from whence but few had returned, they were desirous, however sick, to undergo every hardship rather than remain longer where they were; I therefore began, though with little hopes of success, to consider of the means probable to *relieve* those whom I was convinced it was impossible to *cure*.

In the course of my reflections on this subject, I found reason to dissent from many received opinions; and, by comparing what I had read with what I then saw, endeavoured to acquire more just ideas on the subject.

The scurvy has generally been represented as the offspring of cold, of salt provisions, and of dirt; it has even been represented as infectious, and capable of being communicated like common contagious complaints, by a short abode among the sick. But though the circumstances of
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of cold, salt provisions, and diet, certainly contribute much to its formation, they are, in my opinion, by no means its principal cause, nor could I trace, in any instance, the smallest symptoms of infection.

That salt provisions are by no means its sole cause, is plain from the history given us by Dr. Milmann of two women who had contracted the scurvy in a very severe degree, though their diet consisted entirely of bread and tea; nor was dirt (in that case) the cause, for these two poor women were *remarkably cleanly*.

The man, whose case is described by Dr. Huxham as having taken the horrid resolution of starving himself, died with as many scorbutic symptoms upon him as so short a time could be supposed to produce. The other person mentioned by him, as having destroyed his health by eating immense quantities of concrete volatile alkali, comes nearer to the supposition of its being produced by salt. But here it must be remarked, that a total loss of appetite accompanied the whole disease, from whence we are fairly entitled to draw the same conclusion, as well as from the following facts.

Persons who, by habits of intemperance, have lost their appetites, often exhibit appearances exactly resembling the sea-scurvy. Every person in the least conversant with the disease, must have seen it frequently attack those in a convalescent state from other complaints; and we know the African slaves are extremely liable to it, though their diet is almost entirely vegetable.

In the cases of the two women, there was certainly no cause but defect of nutriment; the same was also evidently true of the man that
starved

starved himself; and as we know that vegetable diet will but poorly support those accustomed to animal food, the same reasoning may probably apply to the negroes. It may, however, be objected, that the labourers in many places live chiefly on meal, and that they exhibit no scorbutic complaints; but it should be remembered, that they make up by quantity for the defect of the quality. Those who by intemperance lose their appetites, and consequently impair the digestive powers, certainly must be in the same predicament of defective nutrition; nor is the scurvy often found even among those obliged to live on salt provisions, unless they are deficient in quantity.

Those who, upon their recovery from other diseases, are attacked by the scurvy, do not immediately, on the turn of their former maladies, perceive its approach. For a few days their convalescence goes on as usual; but, in a week's time, or perhaps near a fortnight, they begin to complain of pains in the limbs, and other scorbutic symptoms. This, as well as the other cases, seems plainly to refer to the head of inanition; for we all know that convalescents require not only *more* but *better* nutriment than those who have not been sick.

It was before observed, that nothing occurred that could countenance the idea of infection, nor can I by any means subscribe to that opinion, however respectable the authority of its maintainers. If by an infectious disease, we mean one capable of being communicated by contact, of an infected person or thing, or a short abode among the sick, or in infected places, scurvy can hardly be referred in the class of infectious diseases.

diseases. This opinion has, if I mistake not, been chiefly founded on observations made upon the coast of Africa; where it was frequently found that the slaves were seized with scurvy in a few days after they arrived on board the ships. I have, however, been informed by several gentlemen, who, though not of the faculty, are every way qualified for making observations, that those who are so early attacked are such as have been previously debilitated by disease or hunger; for the men, or rather brutes, that bring these miserable creatures to the ships, are often under the necessity of marching them through the woods for many hundred miles, by which means they frequently catch violent fluxes, and are always liable to great fatigue and hunger.

If, indeed, the scurvy were at all infectious, the marine hospitals would be continually full of scorbutic patients, and those that went thither to be cured of any other slight disease, would be almost sure of contracting a worse. But we find the case very different; nor do the healthy experience the smallest detriment from admitting the scorbutic among them. We need not however much wonder that the scurvy has been styled infectious, when the gout itself has more than once undergone the same slander.

- That the scurvy is neither the peculiar production of heat nor cold is plain, from its being alike to be found in the hottest and coldest regions; but there can be no doubt that either, if carried to a debilitating degree, will assist much in its formation.

It does not then appear that there is any one circumstance in which all the cases of scurvy agree, except that single one of defective nutri-
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tion, which we may therefore lay down as the remote cause of the whole disease; though other adventitious circumstances certainly tend very much to influence its particular forms. I cannot think with Dr. Trotter, that the cause of scurvy lies in any peculiar state of the blood; for though such a state accompanies it, I see no reason for supposing it to be the cause, as it may equally well be the effect.

It may be objected, that it has been known to appear contrary to my supposition among those who had plenty, and who *might* have at least eaten as much as they pleased. I must own I doubt the fact: but grant it true, it must be considered, on the other hand, that salt provisions are by no means so nutritive as a much less quantity of fresh. If eaten without steeping the excessive saltiness renders them almost intolerable, and if too long steeped (as is generally the case) they become almost a mere *caput mortuum*.

Thus the very pains which are taken to render the provisions *fresh*, serve perhaps more than any indigestible property of the food itself to prejudice the health. This I very sensibly felt; for, being obliged to live for several days on provisions so treated, I found them deprived of all their juices, and reduced by a very moderate boiling, to an almost insipid *bouill *, which retained scarcely any taste except a faint rusty one. The older the provisions are, the more readily they thus part with their most nutritive parts; which may be another reason why scurvy more frequently appears on board merchant ships, whose provisions are often old, than ships of war.

There is, besides, a certain natural propensity in the human frame to a variety of food: any
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one kind soon cloy; and if once the quality becomes thoroughly disagreeable, the stomach will not, without loathing, receive it in any considerable quantity. Vegetables, either fresh or dried, as they require salt to render them palatable, very much dispose the stomach to receive salted food; and though they afford but little nutriment themselves, yet by qualifying the disagreeable flavour of that which is more nutritious, render essential service.

How much difference the quantity as well as the quality of the food makes, was fully demonstrated to me, by the striking example before my eyes; for the sailors belonging to the cartels, who had plenty of salt provisions (with now and then a meal of fresh) were very little subject to the scurvy, unless debilitated by previous disease; whereas the prisoners, whose food was as miserably deficient in quantity as in every other respect, were daily falling victims to it.

From these premises it was reasonable for me to conclude, that the only radical cure for the scurvy was to be obtained not from medicine but from change of diet; yet that some palliation might be expected from those means that could be used to increase the appetite, joined with such as give what may be called artificial strength. Such are the several acids, bark, opium, wine, and strong liquors, taken in moderation; but none of these could be supposed to do more than relieve for a few days.

Before I had perfectly satisfied my own mind on the subject, an event, less the effect of design than of accident, convinced me that I was not totally wrong. An old man having suffered intolerable pain, and lost the use of his legs by the scurvy,

scurvy, took at night a pill of extract. opii, to alleviate his torment. He was so much relieved in his complaints, by this single dose, that I gave him a few small pills, with directions to take one three or four times a day: to my great, and very pleasing surprize, not only his pains left him, but the stiffness of his joints likewise; the blackness which had almost completely surrounded the knee, in a great measure disappeared; nor did I find any difficulty in keeping him sufficiently well, to remain on board, till we sailed for England.

Encouraged by this unexpected success, I proceeded to extend the same practice to others in different states of the disease, till I ascertained the important fact, that opium, prudently administered, is capable of palliating, for *many days*, the most urgent symptoms of sea scurvy, at least in its incipient state; and thus enabling the poor sufferers to hold out till perhaps some hospitable shore may afford the only radical cure—dry air, moderate exercise, and plentiful diet.

It now remains for me to lay down a few practical rules for the general management of scorbutic complaints, as well in the curative as preventive intention; as likewise some hints that may facilitate the administration of opium in those cases where its effects are deficient or excessive.

The prevention of scurvy is not attended with any remarkable difficulty. Every obstacle has been nearly removed by the illustrious Captain Cook, whose plans are now pretty exactly followed in the British navy.

Nearly the same method might be adopted on board every ship bound on a long voyage, were not obstinate bigotry to old customs a too prominent

prominent feature in the character of most navigators. Captain Cook's first improvement was to divide his ship's company into three watches instead of two, a practice which might be more frequently imitated than it is. It does not very often happen that the whole watch (when the crew is formed into two watches only) is wanted on deck at the same time; it would certainly then be better to lessen their fatigue, by dividing them into three, so as to allow one-third to have eight hours uninterrupted rest each night. This would allow sufficient time to wear off the effects of bad and rainy weather, and to refresh completely those that have been harassed with labour. Two-thirds might often serve, when, according to the present custom, all hands are called; and when that is practicable, the advantage of having a reinforcement of fresh hands every eighth hour is too obvious to be overlooked.

Next to providing against over-fatigue, dry and sufficient clothing should be attended to. This, though effectually done on board ships of war, is too little attended to on board merchant ships. The sailors themselves are certainly of all men the least proper to be trusted with laying in their own necessaries. Few of them have the fortitude to resist the temptations of a glass of gin or a strumpet; and, to indulge themselves in those pleasures, they will, without scruple, expend their last farthing, and go to sea in the most deplorable condition.

The master, therefore, who wishes to conduct his ship through a long voyage in safety, will always take care to have on board a sufficient stock of necessary clothing, to supply those who
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are to make the voyage, and may have come out in want. It would not, for obvious reasons, be prudent for him to advance too much before their leaving port, but at sea a mutual power ought to exist for him to be enabled to compel the men to have necessary clothes, and for them to demand to be so supplied by him, to be accounted for out of their wages, at a fair price.

The article of provisions is of the greatest importance; but in this little choice can be had after the fresh stock has been expended. Some means may perhaps be discovered of preserving animal substances at a moderate expence, without salt, or at least with a smaller quantity than is commonly employed for that purpose: at all events, a discovery so very important and salutary, is highly worthy the labours of the philosopher, and ought, in a commercial country, to be encouraged by a most ample reward.

However, as this desirable discovery has not yet been made, all that can now be done is to modify and correct the ordinary salt provisions, as to render them as little noxious as possible. Too much steeping, as was before observed, exhausts the nutritious parts of the salted beef or pork, which seems to be chemically combined with the salt. Moderate washing is quite necessary to remove that superfluity of salt which would otherwise render the meat too acrid to be eaten; but beyond certain limits it is certainly detrimental. If pease, beans, callivances, or other farinacea, are eaten along with the salt provision, thus treated they will not only render it much more palatable, but (as they themselves contain no very despicable share of nutriment) contribute much to the preservation of health.

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This can however only be said of them in a sound and perfect state; for, when spoiled with long keeping, or full of vermin, they become totally useless and disagreeable.

Biscuit for long voyages cannot be kept too closely headed up in casks. Many persons are of opinion, that it requires now and then to be opened and aired; but experience, as well as reason, prove the contrary; for I have seen biscuit which has been kept, with no other precaution than that of being put into a tight cask, more than three years, perfectly fresh and pleasant to the taste.

Vegetables are, doubtless, of considerable use in combination with other food, and in the intention of rendering it more palatable may be used fresh or pickled; but if used alone they are neither able to check nor prevent the scurvy. I have ever seen them hurtful when eaten too freely or raw. It has been lately imagined by some of our navigators, that potatoes eaten raw are a specific in this disease; but ocular demonstration has convinced me that this nauseous dose produces little or no effect. The same I can affirm of cabbages, with this addition, that several were taken ill in consequence of not being able to digest these vegetables when too plentifully used.

The juices of acescent vegetables, infusions of malt, vinegar, &c. possess in themselves no antiscorbutic powers; but by whetting the appetite and assuaging thirst, they facilitate the reception and digestion of salt food. Were it otherwise, we should find that a little vinegar or lemon juice would cure the disease at sea; but the miracles said to be wrought by vegetables

tables have in general been performed on shore, where fresh meat is likewise to be had, with the additional luxury of a pure and dry air.

It has often been matter of surprize to me, that dried and smoked meats so seldom enter into the list of ships' provisions. Prepared in this manner, though they are much inferior in nutrition and salubrity to fresh, they are much superior in both these respects to the ordinary salt beef and pork. It seems, indeed, notwithstanding this inferiority, if we may trust to the numerous instances of the inhabitants of the north, whose diet is almost solely composed of these dried meats and oatmeal, that, aided by the ordinary stores of meal, pease, &c. they would hardly, if at all, produce the scurvy among sailors. The great difference between dried and pickled meat is farther obvious, if we reflect, that in the one the nutritious juices are but lightly impregnated with salt, and dried, as it were, into a firm glutinous mass of easy solution; but, in the other, they are in one of two states, either kept constantly in a state of solution by the surrounding pickle, or else so fixed by the salt as not to yield to an aqueous menstruum. But the excessive insipidity of pickled beef, freshened by long steeping, plainly shews that the juices are by no means fixed: on the contrary, they are disposed to easy solution, and ready to be washed away along with the salt that preserves them from putrefaction.

The catching of fish is always encouraged, as it furnishes many a fresh meal when no other can be had. The larger and stronger tasted ought to be boiled rather than fried, and always used when quite fresh; fortunately when fish can be

be taught, there are few forts which a little oil and lemon juice, or vinegar, will not render very tolerable.

While the beer lasts, not only the scurvy, but other diseases are generally very rare; but when that is consumed the men often begin to grow sickly. The water soon becoming putrid and disgusting, the sailors abstain as much as possible from it, nor will they, unless compelled, mix their allowance of wine or spirits with it; but prefer drinking each separate. In proportion to their stomachs becoming palled with their provisions, their appetites and digestions fail, and the obvious consequence, inanition, takes place. They are directed, by a kind of instinct, to support a sort of artificial strength with their allowance of wine and spirits; these produce that effect for a short time; but lose their efficacy by degrees, till at last the unhappy mariner falls a victim to the slow, but merciless disease.

Nothing contributes more than a cheerful mind and moderate bodily exertion to prevent attacks of the scurvy, of which I saw some striking instances in France. One in particular, a little, lively fellow, who though his fare was no better than his fellow-sufferers, escaped every scorbutic taint, which I could attribute to nothing but his activity and good spirits. It has indeed long been remarked, that the skulkers are the first sufferers: every means therefore should be used to promote cheerfulness and gentle exercise, which last is the more necessary, as the life of a sailor is either that of the severest drudgery or downright indolence.

Washing the mouth well in a morning with salt water and vinegar, may, as tending to clean-

linefs, be productive of some good; but from this I can entertain little higher expectations than from most other popular nostrums. If foulness of the stomach, or obstinate costiveness, create uneasiness, they must be immediately remedied; evacuations of all sorts must however be cautiously employed, and phlebotomy, after men have been some time at sea, should never be performed without the most urgent necessity.

The whole of the prophylactic plan may be summed up in a very few GENERAL RULES, of which the *preseding remarks* may serve for an explanation.

1. Use the most nutritive and palatable diet that can be procured;
2. Vary the food as much as possible, that it may not nauseate by constant repetition;
3. Use wine or spirits in moderation;
4. Let dry clothes be put on when those worn have got wet;
5. Let cleanliness be as strictly observed as possible;
6. Let no unnecessary watching be required;
7. Let idleness and despondency be avoided.

The cure of scurvy at sea is certainly next to impossible, nor does the palliation of its most troublesome symptoms appear to me to admit of great variation in the practice. The excellent effects of opium have already been mentioned, but I shall here somewhat enlarge upon that as well as a few other useful articles of the *materia medica*.

The acids and their effects have been already examined, nor does it seem necessary to add any thing farther on them, except that as condiments they

they are both useful and agreeable. The Peruvian bark I had but little opportunity to try, nor indeed would any trials made by me have been in the least decisive; as all the bark we had was not only spoiled by long keeping, but originally of the worst quality.

Of all the medicines proposed for the cure of this complaint, I can find none that has produced any remarkable effects except opium; but as experiments of its utility are (so far as I know) in their infancy, I shall content myself with subjoining a few hints on its more general use, sincerely wishing, that others whose opportunities of rendering service to mankind exceed mine, may find it as successful as I have done.

Among the various officinal forms of this incomparable article the solid, unprepared, or, as commonly called, *crude opium*, seems the best calculated for use in scorbutic cases; the tincture, and even the softer extract, being too sudden, violent, and transitory in their effects. The solid will indeed agree with many persons who cannot take it in any other form, though some are said to be incapable of bearing it in any form whatever. This however (though certain idiosyncrasies are beyond explanation) seems in general an ill-founded opinion; and that either the opium has been administered when not wanted, or without attending to the state of the *primæ viæ*.

On this account we must consider what are the states in which the first passages are found, and what are the means indicated by reason, and confirmed by experience, for the remedying such as are morbid.

The stomach in a healthy state neither abounds
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in acid, bile, phlegm, nor putrid fordes; but performs its offices readily, and with ease; yet it is liable, more or less readily, to contract any of the above morbid states.

These states are commonly the concomitants of certain habits of living. The stomach generally abounds in acidities in the fat and indolent; in bile, in persons whose excesses in drinking deprive them of appetite; in those exposed to hot climates and seasons, and in those who have endured long anxiety of mind, and in both acid and bilious state it is likewise apt to be stuffed with phlegm. All these conditions of the *primæ viæ* may, according to circumstances, be either the cause or consequences of various diseases; but the putrid, when not owing to putrid ingesta, is, I believe, the sole production of disease continued for a length of time. Nosologists have indeed talked of an alkaline state, and have adapted a set of medicines to it under the barbarous name of *Antalkalina*; but such a state is not, I believe, very commonly found; at least no instance of it has ever come to my knowledge.

In the first (the acid) the resins and gum resins are nearly insoluble; purgatives of that class operate slowly, and with griping; and opium, though given in very large doses, produces but little effect. The corrector for this is obvious, and was proved even to demonstration in the epidemic *diarrhœa* of 1789, which prevailed almost all through England. Rhubarb even increased the disease, and opium alone produced little effect, but conjoined with either the fixed, or volatile alkali, magnesia, or even common chalk, operated in the happiest manner.

We may take, as a farther instance, a disease chiefly

chiefly incident to old men, which I have twice met with. It is so far, as I know, a nondescript, and perhaps mistaken for a spurious apoplexy; but the perfect similarity of the two cases, as well as their cure, shew that neither was singular.

I was sent for to an old farmer, who was said to have been seized with a fit, and found him lying in a profound sleep, with a full slow pulse, deep snorting, and *subfultus tendinum*: he had been attempted in vain to be let blood in both arms, nor did I entertain the least doubt of his case being apoplectic.

In about a quarter of an hour he came somewhat to his senses, and vomited a small quantity of phlegm, but presently his eyes were distorted, his head drawn aside, he uttered a piercing cry, and instantly relapsed into the same state in which I had found him.

On inquiry, I found he had complained of pain at the stomach before his fits; and as there was some mint water at hand, I gave him, as soon as he was able to take it, a small tea-cup full, with a few drops of tinct. opii. This however he soon rejected, and relapsed in the same manner as before.

Supposing that his complaint might proceed from some putrid substance lodged in the stomach, I ordered him a draught containing gr. x. of kali ppt. with gtts. xxx. tinct. opii, to be immediately followed by succ. limon 3ls. In the hurry of giving it to him the lemon juice was spilt, and before any more could be procured the patient found himself so much better that he positively refused to take it. Next morning I found him almost well, his chief complaint

plaint being of the soreness of his mouth and throat, which were almost excoriated by the excessive acidity of what he had vomited: he said his whole complaint had lain in his stomach, and that he had found immediate relief upon taking the (*alkaline*) draught.

“He has several times since been threatened with similar attacks, but always repels them by means of a mixture, containing a considerable portion of the *confectio aromatica* & *magnesia*, which he keeps constantly by him.”

The other case was so strictly similar, that nothing more need be said, but that I removed the whole disease at once with the following draught:

R Aq. menth. ʒiss.
 Sp. nuc. mosch. ʒijj.
 Tinct. opii gtt. xxx.
 Magnes. Alb. ʒss.
 Syr. zinzib. ʒij. M.

The next state of the stomach to be considered is the *BILIOTIS*, in which all the resinous substances operate with remarkable force. The purgatives of this class act briskly and quickly; and opium very often occasions delirium.

Here the vitriolic acid is indicated both by reason and experience, for the purpose of decomposing the bile, and removing its hurtful effects. Emetics have, it is true, been the constant resource of physicians, ever since the days of Hippocrates; and where the stomach is known to abound in phlegm are certainly proper. But this mode of practice ought to be cautiously pursued, unless there is great reason to suspect something more than bilious fordes in the stomach.

mach. In many robust constitutions uneasiness in the stomach, vertigo, and bitter, disagreeable taste in the mouth are removed with great certainty by an emetic; but in tender and weakly persons the same symptoms often require a very different method of cure. After these feeble patients have taken an emetic, they seem, perhaps for a day or two, to be relieved by it, but are sometimes about that time attacked by a cholera morbus, which proves remarkably severe.

When, therefore, the want of strength gives the least ground for suspicion, and there is no reason to believe that the complaint originates from any other cause than redundant bile, the vitriolic acid taken in small doses, as occasion may require, will be sufficient.

In the autumn of 1790, there appeared a bilious diarrhœa, which if not prudently treated, was very apt to run into cholera morbus in a very short time.

The ordinary astringents excited vomiting, in proportion as they checked the flux; purgatives, however gentle, brought on the cholera, and opium caused delirium; but by premising a few drops of acid. vitriol. dilut. any of these might be administered with safety.

Where the primæ viæ are clogged with phlegm, there is perhaps no way of removing it but by evacuation; nor must we be discouraged if a dose of extraordinary magnitude should be required. This tenacious substance lines the stomach and alimentary tube in such a manner as to render them incapable of being acted upon by ordinary doses; at the same time it obstructs the orifices of the lacteals; and until
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it is cleared away the patient sinks under a train of symptoms, often supposed to proceed from other causes. This is no where more strongly exemplified than in the chronic colic, described by Aretæus. Here it should seem very brisk purgatives are quite necessary, as is made to appear by the case (the only one I believe on record) published by me in the New London Medical Journal, vol. I. part II.

The putrid state of the stomach, or lower intestines, is easily known, and can only be remedied by the carbonic acid, whether it proceeds from putrid substances taken in by the mouth, or from previous general disease. Riverius was, I believe, the first that applied this acid, in the form of the fermenting mixture, in the putrid vomiting, which takes place in some fevers; but since his time, other physicians have considerably extended its use, upon rational grounds, with the greatest success. When troublesome symptoms are excited by putrid substances received by the mouth, it is equally efficacious; an instance of which may be found in the Medical Journal above-mentioned.

Many other medicines have been mentioned as possessing high antiseptic powers, but their effects seem very inconsiderable; nor, since we are provided with one of such approved efficacy, is it of much consequence whether we have any more.

I have been insensibly tempted into a long, and, perhaps, unnecessary digression; but as the correction of medicines once was a favourite theme in physic, and has of late been much neglected, I could not forbear giving my sentiments on a subject, which, when rationally attempted,

attempted, is of more importance than seems at this time commonly imagined. Nor did I think it superfluous to facilitate as much as lay in my power the use of one of the most active and excellent articles of the *materia medica*.

When indeed I first undertook the profession of physic some rules, beyond what are commonly taught, seemed necessary for extemporaneous prescription. The use of articles confessedly inert struck me as a criminal species of trifling; following implicitly the formulæ of others seemed to be treated mildly, by being only called servile indolence; nor did the use of disputed medicines, or the random application of the more active, appear at all warrantable. Besides, it has frequently happened that one physician, guided by experience, has extolled to the skies an article which another, on the very same ground, has pronounced totally inert. No other reason could be assigned for this, (if one or both have not been deceived by using it in combination with other drugs, on which its power solely depended), but that some local circumstance has been overlooked. On this account it was obviously necessary to inquire into those states of the living system which could produce any remarkable difference in the power of medicines, and the above is some part of the result of that inquiry.

But to return to our subject. Having corrected the state of the *primæ viæ*, we may generally proceed to administer the opium to our scorbutic patients. Sometimes, however obstinate costiveness renders its immediate use improper, and this must be removed by the use of gentle cathartics, given in such doses as are just sufficient to produce their proper effects. But though this practice in general is necessary, it is not always so; for sometimes

the opium, strange as it may seem, produces an evacuation, even when small doses of carthartics fail; an effect only to be accounted for on the supposition that the fæces are retained, because the intestinal tube is too much debilitated to expel them.

The patients must be kept dry and warm, but not too hot; nor should any species of cleanliness be omitted. If they can move themselves, they should be as much as possible in the open air, when the weather is fine: gentle exertions should be encouraged; and even those who are themselves incapable of motion, will find much refreshment on being carried in their hammocs, or otherwise, upon deck. All surprizes, and sudden emotions and exertions, ought to be carefully avoided, cheerful ideas should be impressed, but even these should be of the steady kind; amusements should be encouraged, but not laborious ones; and the pleasing hope of reaching land in a few days should be constantly instilled into the mind. Even when that desirable event takes place, it ought to be gradually signified to these miserable objects. The exertions of the mind have much effect on the body nor can I attribute the sudden deaths of scorbutic patients, on their arrival in port, to any other cause than excess of joy. When the body is much debilitated, any slight exertion, or passion, produces very great effects; nor perhaps is a state of greater debility any where to be found than in this disease; for here we often find persons who the moment before were speaking cheerfully, suddenly expire on attempting to rise from their beds.

Scorbutic ulcers must be kept clean; but whether the practice of dressing them with vegetable acids is of much avail, experience can alone determine.

In general the fewer applications are made to wounds and ulcers the better; if the dressings be soft, and sufficient to keep out dirt and cold, little more is required.

The earth-bath has been much commended, both as a topical and general application in scorbutic complaints. It is said to occasion great pain on being first used, but in a few repetitions the pains wear off, and the whole habit quickly amends. How far this is the case I am unable to determine; but as the earth-bath can only be practised on shore, the change of diet which may be supposed to obtain at that time may perhaps effect the cure. The application of the fresh earth may perhaps palliate the symptoms, but it must strike every one as a manifest absurdity, to imagine that the morbid effects can permanently cease whilst their cause (bad and insufficient food) remains.

If it is necessary to attempt the palliation of scorbutic complaints at sea, the antiscorbutic diet, particularly so far as relates to nutriment, must be adopted. If such food cannot be procured, the addition of a little wine to the salt beef, when stewed, will render it more palatable, without destroying its nutritive powers. The portable soups are highly proper, and may be rendered still more so, by being united with pease, as it appears from experiment, that fluid food is not so readily acted upon by the stomach as that which possesses some degree of solidity.

For drink the liquors must be suited to the climate. But in all cases, as the creating of artificial strength is the principal object, wine, punch, or beer, may be taken, as appears most suitable. No liquor, perhaps in point of coolness and briskness, exceeds spruce-beer, and as the essence of spruce is perfectly portable, it becomes within the reach of every navigator.

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These rules are likewise proper to be observed by those in a state of convalescence from other diseases; for such are (as was before observed) very liable to attacks of the scurvy, every symptom of which however after disappears as they regain their strength.

For the use of such as are much reduced by acute diseases, an emulsion may be made as follows; which, if well prepared, can hardly be distinguished from cow's milk, and serves for tea or coffee equally as well:

Grind together in a marble mortar about a drachm of fine loaf sugar, half a drachm of gum-arabic, and half a teaspoonful of common salt: when well powdered and mixed, add from twenty to thirty blanched sweet almonds; bruise the whole well together, and form them into a paste; to which add by degrees a pint of boiled water. The slower the water is added, and more pains is taken with rubbing them, the better will be the liquor; and when all the water is added, strain through a fine linen cloth.

Upon standing, it throws up a fine rich cream, which may be collected in such quantity, if we use enough of the emulsion, as to become a most delicate article of luxury.

If to half a pint of this liquor a little spirits and sugar be added, it forms a grateful and refreshing draught in any climate, hot or cold; nor can it perhaps be paralleled unless by the luxurious milk of the cocoa nut.

In the mean time small doses of opium; for instance, pills of grj. Each must be administered at short intervals.

As soon as ever the scurvy makes its appearance on board a ship, the first consideration ought to be the possibility of making land in a short time. It is in vain to flatter ourselves that the disease may not spread, because perhaps only one man is sick.

The seeds of this cruel malady once sown, they only

only wait for a favourable opportunity to produce their horrid fruit. Every little fatigue will be severely felt, and a few, a very few days of bad weather may reduce a numerous crew to the most helpless state; incapable alike to improve a favourable gale, or to guard against the perils of a storm. To vessels in this situation no such thing should exist as an enemy's port. The animosities of ambition should be obliterated by the tears of humanity. This has more than once been the case, when ships in distress have put into the ports of their enemies; they have been relieved and set at liberty, and would always be so was man permitted to act for himself. In few cases, indeed, will he, if left to his own feelings, do wrong. The sacred voice of misery will ever be heard with attention; nay, sometimes the hand of wretchedness, impelled by want, has been held privileged even in violating the first rules of morality. The natural disposition of man is to goodness; his heart yearns with benevolence towards his fellow-creatures. Cruelty constitutes no part of his native character; but custom and education often sorely warp the naturally straight wand. Born with feelings tremblingly alive to every representation of woe, vicious habits rooted by time too often render him insensible to the miseries of others; he can see them without pity, he can inflict them without remorse: but, permitted to obey the dictates of his own heart, without any vicious precedent to pervert his actions, they are for the most part generous, great, and good.

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POSTSCRIPT.

SINCE the above went to press, it has been suggested to me that the fevers attended with icteric symptoms, p. 12, might possibly have been brought by the ships from the West Indies, and communicated by infection to the prisoners who slept upon the mattresses the English soldiers had used in those islands where the yellow fever raged. That clothes and bedding are capable of retaining and communicating infection, I am far from denying; but I cannot at the same time allow, that the yellow fever, properly so called, is at all infectious. When that fatal epidemic appeared at Philadelphia, no tolerably attested instance of contagion is related of it. The weather, during July, August, September, and October, was remarkably hot, calm, and droughty; but about the 8th of November it became colder, and a good deal of rain fell, when the number of deaths immediately decreased from upwards of two thousand, who died in October, to about an hundred and twenty. If the yellow fever makes its appearance in the West Indies in war-time, when the hospitals are crowded with sick, there can be no doubt but that those in the hospitals will be liable to that contagious disease which is proper to those places; but as all intercurrent diseases partake of the form of the reigning epidemic, these will put on the general form of the yellow fever, though of a widely different origin, and that they may be communicated by infection is very evident.

In

In all the cases of disease originating from contagion that I have been able to trace, *delirium* is seldom or never an early symptom: in the worst cases of the small-pox the patient is very rarely delirious for several days. But when diseases arise from the constitution of the air, the case is widely different, and the first attack is often discovered by a derangement of intellect. In those fatal maladies that attack Europeans who reside in some parts of Africa during the rainy season, a kind of light delirium often precedes every other symptom; when the *angina maligna* rages epidemically this is often the first harbinger of the disease; when the plague ravaged London in 1665, it seems to have been preceded by an epidemic delirium, which manifested itself among the people by frantic pretences to prophecy and power of seeing spectres; and finally, whilst I was in France, a gentleman, who was not in the way of any infection, was seized with a violent fever, which first declared itself by his being taken delirious whilst sitting at breakfast. We may perhaps then make early delirium a criterion of an epidemic generated upon the spot, and not imported from any foreign climate; nor, in fact, do I believe there ever was an instance of an epidemic being brought out of one country into another: one or two persons may certainly be infected by this mode of communication, but to enable the contagion to spread to any extent, many other circumstances must concur.

THE END.



BY THE SAME AUTHOR,

TRANSLATION

OF THE

Genuine Works of Hippocrates,

WITH

HIS LIFE;

As collected from the best Authorities.

THIS work has been the labour of several years, and was originally undertaken solely for the Author's own use. It was indeed perfectly evident to him on the first perusal of the writings of the Venerable Fathers of Medicine, that his Translators and Commentators had in general not only misconceived his ideas, but even grossly misunderstood his language. In his Aphorisms these blunders are often of the first magnitude; they not only distort the Author's meaning, but sometimes entirely do it away, or else render grand and useful Theorems trifling and nonsensical. In his other works, which are of a less didactic cast, blunders, though not of so great importance, are, nevertheless, unpleasant to the reader. The great use of a correct Translation of an Author, from whom more than half the Medical Writings of the last two thousand years have been copied, stolen, or perverted, needs no remark: the Author submits his performance to the judgment of his brethren, who will, he doubts not, praise or censure him according to his merit.